

LISTING OF THE CLAIMS

1. (Previously Presented) A radio-resource management method comprising a control step of, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of a plurality of radio base stations and radio terminals belonging to respective different operators, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

2. (Previously Presented) The radio-resource management method according to claim 1, said radio-resource management method characterized in that said radio-link quality information includes at least the received level of the radio link and a quantity of interference with a neighboring radio system, and that said control step has a step of, in the event that a total of the received levels of the other base stations utilizing a frequency identical to the frequency that said radio base station currently utilizes is larger than a total of the received levels of other base stations in the frequency other than the frequency that is currently utilized, out of the frequency that said radio base station can utilize, taking control so as to make an alteration to the frequency other than said frequency that is currently utilized.

3. (Original) The radio-resource management method according to claim 1, wherein said radio-link quality information is notified at a predetermined notification period.

4. (Original) The radio-resource management method according to claim 3, wherein, in the event that a link quality of the radio link exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

5. (Original) The radio-resource management method according to claim 3, wherein, in the event that a distribution value of the link quality of the radio link measured within a constant period exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

Claims 6-18 (Cancelled).

19. (Previously Presented) A radio-resource management method comprising a control step of, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of a plurality of radio base stations and radio terminals belonging to respective different operators, detecting an interference state between the operators to take fault-notification control according to this detected result, and, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

20. (Original) The radio-resource management method according to claim 19, said radio-resource management method characterized in that said control step has a step of, in the event that radio interference having a pre-specified value or more from the other radio operator was detected within a network of a certain radio operator, making fault notification to a network management server of the radio operator that is an interference source.

21. (Original) The radio-resource management method according to claim 20, wherein said control step has a step of, in addition to said fault notification, making notification of anyone of

an interference quantity, a transmitted-power quantity that the radio base station should attenuate, and a frequency that the radio base station should alter, or a combination thereof as well.

22. (Original) The radio-resource management method according to claim 19, wherein said radio-link quality information is notified at a predetermined notification period.

23. (Original) The radio-resource management method according to claim 22, wherein, in the event that a link quality of the radio link exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

24. (Original) The radio-resource management method according to claim 22, wherein, in the event that a distribution value of the link quality of the radio link measured within a constant period exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

25. (Previously Presented) A radio-resource management apparatus comprising controller for, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of a plurality of radio base stations and radio terminals belonging to respective different operators, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

26. (Previously Presented) The radio-resource management apparatus according to claim 25, said radio-resource management apparatus characterized in that said radio-link quality information includes at least the received level of the radio link and a quantity of interference with a neighboring radio system, and that said controller has means for, in the event that a total of the received levels of the other base stations utilizing a frequency identical to the frequency that said radio base station currently utilizes is larger than a total of the received levels of other base stations in the frequency other than the frequency that is currently utilized out of the frequencies that said radio base station can utilize, taking control so as to make an alteration to the frequency other than said frequency that is currently utilized.

Claims 27-33 (Cancelled).

34. (Previously Presented) A radio-resource management apparatus comprising controller for, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of a plurality of radio base stations and radio terminals belonging to respective different operators, detecting an interference state between the operators to take fault-notification control according to this detected result, and, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

35. (Original) The radio-resource management apparatus according to claim 34, wherein said controller has means for, in the event that radio interference having a pre-specified value or more from the other radio operator was detected within a network of a certain radio operator, making fault notification to a network management server of the radio operator that is an interference source.

36. (Original) The radio-resource management apparatus according to claim 35, wherein said controller has means for, in addition to said fault notification, notifying anyone of an interference quantity, a transmitted-power quantity that the radio base station should attenuate, and a frequency that the radio base station should alter, or a combination thereof as well.

37. (Previously Presented) A radio base station in a wireless network system including a radio-resource management apparatus for managing a radio resource, and radio base stations belonging to a plurality of respective different radio operators, said radio base station comprising: means for measuring a quality of a radio link, including at least a received level of a radio link, and notifying radio-link quality information that is this measured result to said radio-resource management apparatus; and means for, in reply to alteration-control notification of a frequency based on said measured result from said radio-resource management apparatus, taking alteration control of a service frequency on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

38. (Original) The radio base station according to claim 37, wherein said means for notifying comprises means for notification makes notification at a predetermined notification period.

39. (Original) The radio base station according to claim 38, wherein, in the event that the radio-link quality exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

40. (Original) The radio base station according to claim 38, wherein, in the event that a distribution value of the radio-link quality measured within a constant period exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

Claims 41-44 (Cancelled).

45. (Previously Presented) A radio terminal in a wireless network system including a radio-resource management apparatus for managing a radio resource, and radio base stations belonging to a plurality of respective different radio operators, said radio terminal comprising: means for measuring a quality of a radio link, including at least a received level of a radio link, and notifying radio-link quality information that is this measured result to said radio-resource management apparatus; and means for, in reply to alteration-control notification of a frequency based on said measured result from said radio-resource management apparatus, taking alteration control of a service frequency on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

46. (Original) The radio terminal base station according to claim 45, wherein said means for notifying makes notification at a predetermined notification period.

47. (Original) The radio terminal according to claim 46, wherein, in the event that the radio-link quality exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

48. (Original) The radio terminal according to claim 47, wherein, in the event that a distribution value of the radio-link quality measured within a constant period exceeded a predetermined threshold, said notification period is set to be longer than it is set in the event that it is equal to or less than said threshold.

Claims 49-56 (Cancelled).

57. (Previously Presented) A computer-readable medium storing a program for causing a computer to execute a control operation of a radio-resource management apparatus in a wireless network system, said program characterized in including a frequency control step of, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of radio base stations and radio terminals belonging to respective different operators, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

58. (Cancelled).

59. (Cancelled).

60. (Previously Presented) A computer-readable medium storing a program for causing a computer to execute a control operation of a radio-resource management apparatus in a wireless network system, said program characterized in including a step of, based on radio-link quality information, including at least a received level of a radio link, to be notified from at least one of

radio base stations and radio terminals belonging to respective different operators, notifying anyone of occurrence of a fault and an interference quantity, a transmitted-power quantity that the radio base station should attenuate, and a frequency that the radio base station should alter, or a combination thereof to a network management server of the radio operator that is an interference source in the event that radio interference having a pre-specified value or more from the other radio operator was detected within a network of a certain radio operator, and, taking alteration control of a frequency that said radio base station utilizes on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

61. (Previously Presented) A computer-readable medium storing a program for causing a computer to execute a control operation of a radio base station in a wireless network system including a radio-resource management apparatus for managing a radio resource, and radio base stations belonging to a plurality of respective different radio operators, said program characterized in including the steps of: measuring a quality of a radio link, including at least a received level of a radio link, to notify radio-link quality information that is this measured result to said radio-resource management apparatus; and in reply to alteration-control notification of a frequency based on said measured result from said radio-resource management apparatus, taking alteration control of a service frequency on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

62. (Cancelled).

63. (Previously Presented) A computer-readable medium storing a program for causing a computer to execute a control operation of a radio terminal in a wireless network system including a radio-resource management apparatus for managing a radio resource, and radio base stations belonging to a plurality of respective different radio operators, said program characterized in

including the steps of: measuring a quality of a radio link, including at least a received level of a radio link, to notify radio-link quality information that is this measured result to said radio-resource management apparatus; and in reply to alteration-control notification of a frequency based on said measured result from said radio-resource management apparatus, taking alteration control of a service frequency on the basis of total received levels of other base stations that use the same frequency used by said radio base station.

Claims 64-76 (Cancelled).